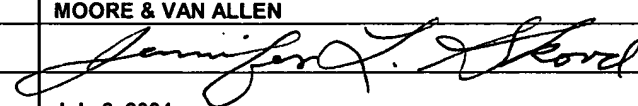
 <b>TRANSMITTAL FORM</b> (to be used for all correspondence after initial filing)	Application Number	09/900,129	
	Filing Date	July 6, 2001	
	First Named Inventor	William W. Jacobsen	
	Group Art Unit	36181711	
	Examiner Name	Rajguru, U.	
Total Number of Pages in This Submission	4	Attorney Docket Number	022182-000056

**ENCLOSURES (check all that apply)**

<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Documents <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) ____	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input checked="" type="checkbox"/> Appeal Communication to Group ( <i>Appeal Notice, Brief, Reply Brief</i> ) <input type="checkbox"/> Proprietary Information <input checked="" type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): *Acknowledgment Postcard *Original and two copies of Reply Brief
Remarks		

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm or Individual Name	JENNIFER L. SKORD (REG NO. 30,687) MOORE & VAN ALLEN
Signature	
Date	July 6, 2004

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 09/900,129 Confirmation No. 6519  
Applicant : William W. Jacobsen  
Filed : July 6, 2001  
Group Art Unit : 1711  
Examiner : U.K. Rajguru  
  
Attorney Docket No. : 022182.000056  
Customer No. : 24239

Title: LIGNOCELLULOSE FIBER FILLER FOR THERMOPLASTIC COMPOSITE  
COMPOSITIONS

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*Katie M. Efland*  
Katie M. Efland

**REPLY BRIEF UNDER 37 CFR 1.193**

Sir:

This is in Reply to the May 26, 2004 Examiner's Answer to Appellant's Appeal Brief.  
The Examiner's Answer sets a 2 month term of **July 26, 2004** for filing the Reply Brief.

The Reply Brief is enclosed in triplicate.

**Summarily, Appellant respectfully submits that there are two problems in that the Examiner appears not to understand (1) the chemistry, and (2) how to combine references for an obviousness rejection.**

As to item (1), Appellant respectfully points out that the Examiner does not understand the chemistry, as the Examiner clearly does not grasp the difference between polyethylene, which is a moldable thermoplastic, and graft modified maleic anhydride polyethylene, which is a tacky sticky material.

As to item (2), Appellant respectfully points out that the Examiner does not understand how to combine references for an obviousness rejection and instead the Examiner picks and chooses parts out of a reference while clearly ignoring other teachings of the reference, and also uses Appellant's own disclosure to know what the answer is.

The present invention, as defined in claim 13 (the only independent claim), is directed to *a moldable thermoplastic composite composition*. This composition comprises certain amounts of two specific components:

- (a) *long, hair-like, wood fiber*, with length of at least about 15 mm (about 0.6 inch) and diameter of less than about 0.5 mm (about 0.02 inch),  
and
- (b) *thermoplastic*.

More particularly, the moldable thermoplastic composite composition comprises about 20 – 50 weight % discontinuous lignocellulose wood fiber filler and about 50 – 80 weight % thermoplastic. About 20 weight % of the wood fibers comprise wood fibers that have a length of at least about 15 mm (about 0.6 inch) and a diameter of less than about 0.5 mm (about 0.02 inch).

Also, the present invention, as defined in dependent claim 16, is directed to a moldable thermoplastic composite in accordance with independent claim 13, upon which claim 16 depends, and further comprising up to about 10 % of a coupling agent.

Specific kinds of optional coupling agents, such as maleic anhydride grafted polyethylene and maleic anhydride grafted polypropylene, which are tacky materials *but are not thermoplastics*, are recited at lines 1 – 10 of page 10 of the specification.

## ARGUMENT

*Overview of the present invention to Jacobsen, and the three references, U.S. Patent No. 5,194,461 to Bergquist et al., U.S. Patent No. 4,380,522 to Georlette et al., and U.S. Patent No. 5,932,357 to Coates et al.*

For convenience, the following abbreviations of the polymers are employed below:

PE	polyethylene
HDPE	high density polyethylene
PP	polypropylene
PA	polyamide

and Appellant respectfully reiterates from the Appeal Brief the following Chart, which summarizes the present invention as compared to the three cited U.S. patents.

CHART		
Inventor(s)	Thermoplastic (such as PE or PP) or tacky materials that are not thermoplastic (such as graft modified maleic anhydride PE or PP)	Fiber
Jacobsen (present invention, a moldable composition)	thermoplastic, such as PE  optionally included may be small amount of graft modified maleic anhydride PP or graft modified maleic anhydride PE, which are <i>not</i> thermoplastic	wood cellulose fiber, long hair-like strands having length at least about 15 mm (0.6 inch) and diameter less than about 0.50 mm (0.02 inch)
Bergquist et al. (invention is a moldable composition)	HDPE, a thermoplastic	herbaceous cellulose fiber, <i>inherently has projections</i> , and thus is a <i>replacement</i> for wood cellulose fiber, no preference for long length nor for narrow diameter, length is 0.001 - 12 inch (0.025 - 300 mm), preferred length is 0.25 - 0.5 inch (6.4 - 12.7 mm)
Georlette et al. (invention is a moldable composition)	graft modified maleic anhydride PE, which is <i>not</i> a thermoplastic, as a <i>replacement</i> for PE, which is a thermoplastic	wood cellulose fiber, i.e., wood flour or wood dust, no preference for long length nor for narrow diameter, particle size is 0.1 - 3.0 mm (0.004 - 0.118 inch)
Coates et al. (invention is a 3-layer sandwich, <i>not</i> a moldable composition)	<i>3-layer sandwich</i> of: PP/graft modified maleic anhydride PP/ PA or polyester to which paint is applied on the PA or polyester layer	<i>no fiber</i>

*Discussion of rejection of claims 13 - 16, 18 and 19 as obvious over U.S. Patent No. 4,380,522 to Georlette et al. in view of U.S. Patent No. 5,194,461 to Bergquist et al.*

In the Answer, the Examiner essentially reiterated the same rejections that he set out in the first Office Action and the Final Rejection.

Appellant respectfully reiterates that specifically, independent claim 13 requires a moldable thermoplastic composite composition comprising (1) 20 - 50 weight % wood fiber filler comprising at least 20 % by weight of fiber having a length of at least about 15 mm and a diameter of less than about 0.50 mm and (2) 50 – 80 weight % thermoplastic. This concentration of fiber filler with the claimed dimensions in a moldable composition with a thermoplastic is not found in the references.

In the Answer, the Examiner stated that Georlette et al. disclose that “Suitable polyolefins are polyethylene, polypropylene and a few others (col. 2, lines 49 - 54).” The Examiner quotes from only the middle of the pertinent paragraph of Georlette et al. Later in the Answer, the Examiner stated that “Appellant’s statement that ‘Georlette uses [*sic*, Georlette et al. use] modified polyolefin and wood fiber’ is true. Examiner is of the opinion that invention of Geolette [*sic*, Georlette et al.] is equally useful with modified as well as unmodified polyolefins.”

Appellant has repeatedly pointed out that Georlette et al. do **not** disclose that “Suitable polyolefins are polyethylene, polypropylene and a few others (col. 2, lines 49-54).” They do **not** use unmodified polyolefins. Rather the Examiner is **ignoring** the rest of the pertinent paragraph, and if one reads the entire paragraph, col. 2, lines 44 – 57, one can see that these suitable polyolefins are used for making graft modified maleic anhydride polyolefins, which are **not** thermoplastic. Moreover, Georlette et al. use small wood fibers, 0.1 to 3.0 mm in length (0.004 to 0.1118 inch), and thus, there is no suggestion for Appellant’s long hair-like strands with a long length of at least about 15 mm (about 0.6 inch) and a narrow diameter less than about 0.50 mm (about 0.02 inch).

Georlette et al. use the graft modified maleic anhydride polyolefins, as a **replacement** for polyolefins, because the graft modified maleic anhydride polyolefins are **tacky, sticky** materials. Georlette et al. specifically state that compositions of wood cellulose fiber and a thermoplastic such as polyolefin “exhibit inadequate properties” (col. 1, lines 56 – 61). Hence, Georlette et al. solved the problem of compositions of wood cellulose fiber by using the tacky graft modified maleic anhydride polyolefins, another teaching of Georlette et al. that the Examiner is **ignoring**.

In the Answer, the Examiner stated that Bergquist et al. disclose “a composite comprised of recycled high density polyethylene and fibrous materials. Fibrous materials are usually 0.5 inch and may be several inches in length (col. 2, lines 42 – 52).”

In fact, although Bergquist et al. in the paragraph at col. 2, lines 42 – 52 mention 0.5 inch as nominal for their fibrous material, they also mention in this paragraph a total range from 0.001 inch to several inches for their fibrous material. In their claim 3, Bergquist et al. mention a range of 0.001 to 12 inches for their fibrous material.

Also Bergquist et al. in this paragraph at col. 2, lines 42 – 52 specifically state that their fibrous material is **herbaceous**. Bergquist et al. recognized there was a problem of wood cellulose fiber and PE in a moldable composition, and solved the problem by using herbaceous cellulose fiber instead of wood cellulose fiber with PE because the herbaceous fiber has **projections that will anchor in** the PE. See, col. 3, lines 39 – 46 vis-à-vis that the projections

afford an anchoring feature. These are teachings of Bergquist et al. that the Examiner is *ignoring*.

The Examiner in the Answer asserts that “the disclosure of Bergquist [*sic*, Bergquist et al.] of fibers having a length from 0.001 to 12 inches does encompass the claims length of more than 15 mm”. That is not the point.

The point is whether the disclosure of 0.001 to 12 inches for *herbaceous* fiber in Bergquist et al. teaches or suggests Appellant’s long hair-like strands of *wood* cellulose fiber with a long length of at least about 0.6 inch (about 15 mm) and a narrow diameter less than about 0.02 inch (about 0.50 mm). Bergquist et al. do not suggest nor teach this range and in fact, they teach away from use of wood fiber.

In short, Appellant respectfully submits that the Examiner has ignored that Appellant has *solved the problem* of a moldable composition of thermoplastic, such as PE, and wood cellulose fiber, by using a selected amount of long, hair-like wood cellulose fibers, which specifically have a length of at least about 15 mm (0.6 inch) and a diameter of less than about 0.50 mm (0.02 inch).

Moreover, Appellant respectfully reiterates, as stated in the Appeal Brief, that his composition exhibits excellent properties for Izod (impact), tensile strength, and flex, as shown by his Table V on page 14 of his specification, and that Table V illustrates that the more that the long, hair-like fibers are used, to 50 weight % of the fiber, then the better are the properties.

In the Answer, the Examiner stated, with regard to Appellant’s comments in the Appeal Brief in connection with Table V on page 14 of the present application, that:

Table V shows data on five samples. Out of those samples, sample 7 has lowest tensile strength (17.8 MPA) [*sic*, 17.8 MPa] while sample 12 has maximum tensile strength (24.6 Mpa) [*sic*, 24.6 MPa]. [However,] Both samples contain 30 % by wt wood fibers.

And the Examiner further asserted that therefore Appellant’s above statement [in the Appeal Brief] regarding:

that, “table V illustrates that the more that the long hair-like fibers”, are used, to 50 wt % of the fiber, then the better are the properties” ... *does not have any supportive data*. [Emphasis supplied.]

Appellant respectfully points out vis-à-vis Table V that the Examiner apparently has confused the % of the composition that comprises fiber and the % of the fiber that comprises long, hair-like fibers with lengths in excess of 15 mm.

Rather, the 30 weight % is a reference to the % of the composition that is fiber and the 50 weight % is a reference to the % of the fiber that is the long, hair-like fibers, with length in excess of 15 mm. Appellant did not state in the Appeal Brief that Table V illustrates the fiber to

50 weight % of the entire composition, but rather that Table V illustrates the long, hair-like fibers to 50 weight % of the fiber (i.e., as per sample 12, shown is that the long, hair-like fiber is to 50 weight % of the 30 weight % fiber of the entire composition, which means 15 weight % of the entire composition is the long, hair-like fiber).

Thus, the data in Table V indeed supports that the more that the long, hair-like fibers with length in excess of 15 mm are used, to 50 weight % of the fiber, then the better are the properties, i.e., sample 12 exhibited a better tensile strength (24.6 MPa).

Appellant respectfully points out, as the Examiner should be well aware, that it is impermissible hindsight for the Examiner to employ the teachings of the invention, and to pick and to choose certain selective portions of the references while ignoring other portions of the references, in order to come up with the invention.

Also in the Answer, the Examiner cited various court cases vis-à-vis obviousness, in connection with the rules that the teaching to produce the claimed invention can only be established from the references themselves or must be in the knowledge generally available to one of ordinary skill in the art. More particularly, the Examiner cited *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ 1941 (Fed. Cir. 1992); and *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA) 1971).

Specifically regarding *In re McLaughlin*, the Examiner quoted this case for the proposition that:

It must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper.

However, Appellant respectfully submits that apparently the Examiner regards *In re McLaughlin* as a *carte blanche* to use the specific teachings of the claimed invention, which is hindsight, but the Examiner does not truly understand how to apply the rules with respect to obviousness.

Furthermore, Appellant respectfully submits the Examiner merely picks and chooses what he likes from the references and ignores the teachings as a whole of the references, which is obvious to try/obvious to experiment reasoning.

The Examiner has concluded the Bergquist et al. herbaceous fibers having a length from 0.025 – 300 mm (0.001 to 12 inches) and the Georlette et al. wood fibers having a length from 0.1 to 3.0 mm (0.004 to 0.1118 inch) together render obvious Appellant's wood fibers of long hair-like strands with a long length of at least about 15 mm (about 0.6 inch) and a narrow diameter less than about 0.50 mm (about 0.02 inch).

From the combination of Bergquist et al. and Georlette et al., it is certainly obvious to try and obvious to experiment vis-à-vis long hair-like strands with a long length of at least about 15

mm (about 0.6 inch) and a narrow diameter less than about 0.50 mm (about 0.02 inch). But it is Appellant who has made the discovery, and who has shown that this particular combination exhibits better tensile strength, as discussed above with regard to Table V in Appellant's specification.

As is well known, the case law is replete with examples that obvious to try/obvious to experiment reasoning is not the test for obviousness. See, *In re Dow*, 5 USPQ2d 1529 (Fed. Cir. 1988); *Hodosh v. Block Drug Co.*, 786 F.2d 1136 (Fed. Cir. 1986); and *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988).

Only from the knowledge of Appellant's disclosure would the person of ordinary skill in the art glean the suggestion that these particular long hair-like strands wood fiber would work, out of the *millions of combinations of sizes* from the teachings of Bergquist et al. and Georlette et al., in order to solve the problem of a moldable composition of wood fiber and thermoplastic.

*Discussion of rejection of claim 17 under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 4,380,522 to Georlette et al. in view of U.S. Patent No. 5,194,461 to Bergquist et al., as applied to claims 13 and 16, and further in view of U.S. Patent No. 5,932,357 to Coates et al.*

Dependent claim 16 depends on independent claim 13, and further includes a small amount of a coupling agent. Dependent claim 17 depends on dependent claim 16, and requires that the coupling agent is maleic anhydride grafted polypropylene. Thus, claim 17 is directed to a moldable thermoplastic composite composition, as claim 17 incorporates by reference the requirements of claim 13.

In the Answer, the Examiner essentially reiterated the same rejections that he set out in the first Office Action and the Final Rejection.

The Examiner noted in the Answer that the patent to Coates et al. is a secondary reference relied on for its teaching of the use of the claimed coupling agent, and that they were faced with the problem of enhancing adhesion which was the problem faced by Georlette et al.

Also in the Answer, the Examiner stated:

Disclosure of Georlette and Bergquist [*sic*, Georlette et al. and Bergquist et al.] are presented in short earlier. They together fail to mention maleic anhydride graft polypropylene and polypropylen [*sic*, polypropylene] as ingredients of the (claimed) composition.

As Appellant has repeatedly pointed out, and as discussed above with regard to the paragraph at col. 2, lines 44 – 57 of Georlette et al., namely the paragraph from which the Examiner is selectively quoting only the middle, Georlette et al. indeed disclose graft modified maleic anhydride polyolefins. One of those is graft modified malice anhydride polypropylene,



specifically at lines 50 – 51 of the paragraph at col. 2, lines 44 - 57. The Board is respectfully requested to read that entire paragraph.

Appellant is not claiming graft modified maleic anhydride polyolefins, such as graft modified maleic anhydride polypropylene, alone with wood fiber. That is the invention of Georlette et al., which Appellant respectfully submits the Examiner has completely misconstrued.

Appellant respectfully submits that the Examiner is still ignoring that Coates et al. show a sandwich of PP/graft modified maleic anhydride PP/PA or polyester, a *sandwich of 3 distinct layers*. The middle layer is graft modified maleic anhydride PP, because it is tacky, to adhere the outer PP layer of plastic to the outer PA or polyester layer of plastic, so that the PA or polyester layer can readily be painted, since the PP layer does not retain paint well.

The patent to Coates et al. is clearly non-analogous art. Coates et al. do not show any fiber, let alone a *moldable composition* of thermoplastic and wood fiber, the wood fiber comprising at least 20 weight % long, hair-like strands (length at least about 15 mm and diameter less than about 0.50 mm), with a small amount of graft modified maleic anhydride PP, as is being claimed in claim 17.

It is irrelevant that Coates et al. disclose graft modified maleic anhydride PP, which is tacky. Graft modified maleic anhydride polyolefins, such as graft modified maleic anhydride PP, are well known as tacky materials for enhancing adhesion. That discovery is not Appellant's invention.

Georlette et al. not only also disclose graft modified maleic anhydride PP, which is tacky, but also they disclose wood fiber. Appellant has clearly distinguished over Georlette et al., as discussed above. Those comments are reincorporated here by reference. So are the comments above vis-à-vis Bergquist et al. reincorporated here by reference.

Thus, the prior art fails to recognize and thus to realize the advantages which Appellant has achieved in his invention by providing a selected concentration of long hair-like fibers that have a length of at least about 15 mm and a diameter less than about 0.50 mm in a moldable composition of wood fiber and thermoplastic, where the composition has a small amount of graft modified maleic anhydride PP.

## CONCLUSIONS

Given the advantages of the claimed composite composition explained above and in the specification, and the fact that Georlette et al. and Bergquist et al. fail to show or to suggest each element of claim 13, Appellant respectfully submits that the references do not suggest the presently claimed invention, either singly or taken in any reasonable combination.

Thus, Appellant respectfully requests the Board to instruct the Examiner to withdraw the rejection of claims 13-16, 18 and 19 under 35 U.S.C. §103(a) over U.S. Patent No. 4,380,522 to Georlette et al. in view of U.S. Patent No. 5,194,461 to Bergquist et al.

Also, Appellant respectfully submits that Coates et al. show a sandwich, not a moldable thermoplastic composition with wood fiber, and thus, they add nothing to the combination of Georlette et al. and Bergquist et al.

Thus, Appellant respectfully requests the Board to instruct the Examiner to withdraw the rejection of Claim 17 under 35 U.S.C. §103(a) over U.S. Patent No. 4,380,522 to Georlette et al. in view of U.S. Patent No. 5,194,461 to Bergquist et al., as applied to claims 13 and 16, and further in view of U.S. Patent No. 5,932,357 to Coates et al.

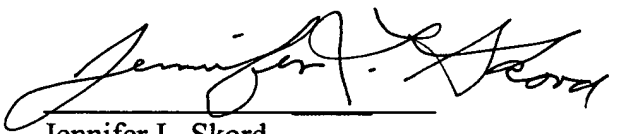
For the foregoing reasons, the Appellant respectfully submits that claims 13-19 are in condition for allowance, and respectfully requests the Board to instruct the Examiner to issue an allowance of the application.

#### DEPOSIT ACCOUNT

Although it is believed that no fee is due for the Reply Brief, the Commissioner is authorized to charge any deficiencies of payment associated with this Communication, or to credit any overpayment, to Deposit Account No. 13-4365.

Respectfully submitted,

Date: July 6, 2004

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